

1. (a)
2. (d)
3. (a)
4. (a)
5. (b)
6. (b)
7. (a)
8. (d)
9. (a)
10. (d)
11. (d)

12. IS K SENSITIVE TO OUTLIERS?

Yes, K is sensitive to outliers, because a mean is easily influenced by extreme values.

13. WHY IS K MEANS BETTER?

- Relatively simple to implement.
- Scales to large data sets.
- Guarantees convergence.
- Can warm-start the positions of centroids.
- Easily adapts to new examples.
- Generalizes to clusters of different shapes and sizes, such as elliptical clusters.

14. IS K MEANS A DETERMINISTIC ALGORITHM?

No, K Means is not a deterministic algorithm. The non-deterministic nature of K-Means is due to its random selection of data points as initial centroids. The key idea of the algorithm is to select data points which belong to dense regions and which are adequately separated in feature space as the initial centroids.